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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/742,128	12/19/2003	Ankur P. Panchbudhe	VRT0117US	5026
60429 7590 02/07/2008 CAMPBELL STEPHENSON LLP 11401 CENTURY OAKS TERRACE BLDG. H, SUITE 250 AUSTIN, TX 78758			EXAMINER DOAN, DUC T	
			ART UNIT 2188	PAPER NUMBER
			MAIL DATE 02/07/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary

Application No.

10/742,128

Applicant(s)

PANCHBUDHE ET AL.

Examiner

Duc T. Doan

Art Unit

2188

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 November 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 27,29-42,44-46,48-50 and 52-54 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 27,29-42,44-46,48-50 and 52-54 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 November 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of Claims

Claims 1-61 have been presented for examination in this application.

Claims 1,26,28,43,47,51 and 55-61 have been canceled.

Claims 27,29-42,44-46,48-50, and 52-54 are remain pending in this application.

Claims 27,29-42,44-46,48-50, and 52-54 are rejected.

The applicant's remarks and amendment filed 11/7/2007 and 10/22/2007 to the claims have been considered with the results that follow,

Claim Rejection 35 USC 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 46-49, 50 and 52-54 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

As in claim 46, the claim directs to the system having software modules only (i.e in light of specification's paragraph 96 lines 1-2). Because the claim appears to direct only to software per se, it renders the claim to be non-statutory.

As in claim 50, the claim does not direct to a computer readable storage media, instead it directs to a computer-readable medium that may include transmission media that is a non-statutory subject matter (see Specification's paragraph 95).

All dependent claims are rejected as having the same deficiencies as the claim(s) they depend from.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

A person shall be entitled to a patent unless -

(a) the invention was known or used by others in this country or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claims 27,29-30,32-42,44-46,48-50,52-54 are rejected under 35 U.S.C. 102 (e) as being anticipated by Miyata et al (US 2003/0225972).

As in claim 27, Miyata describes a method comprising: in response to a request to perform an operation on a first set of locations of a plurality of location in a storage area (Miyata's Fig 11, paragraphs 87-88 discloses a mechanism that the controller Fig 1: #131 perform a copy duplicate operation by registering the duplicate function. This processing is executed by the client computer. In other words, the duplicated function is formed/registered in response to a request for duplication operation being processed by client computer Fig 1: #11a), and performing the operation upon a given location in the first set of locations of the plurality of locations in the storage area only if the given location is identified in the at least one location description of the sieve associated with the operation (Miyata's paragraph 86, Fig 2 discloses performing a specific operation on the data/locations identified by attribute bits Fig 2: #202 having value of 1);wherein the sieve comprises at least one location description and a property, wherein the property comprises information identifying the operation (Miyata further discloses a mechanism comprising structures Fig 4, Fig 2 that describe location (Fig 2: LBA) and property comprises information identifying operation such as copying data to cache (Fig 2: #203 attribute bit, for example, Miyata's paragraph 86 discloses when the file attribute bit is one, the copy operation is necessary performed on the data block at the location indicated in Fig 2) and wherein the at least one location description identifies all storage locations within the storage area upon which the operation can be performed (Miyata's Fig 2, Fig 4-5 further disclose that all bits Fig 2: #203 with value 1 and these blocks

belong to the files as shown in Figs 4, 5 identifies all storage locations within the storage area upon which the operation can be performed).

As in claim 29, Miyata further describes wherein the at least one location description is specified by an application program (Miyata's paragraphs 96-99 describes API and methods for user to specifying the areas to be duplicated, Miyata paragraphs 34-37,39-40,44 further discloses the mechanism for application program to instruct and communicate with other modules in host Fig 1: #13 and storage unit Fig 1: #14).

As in claim 30, Miyata further describes wherein the operation is replication (Miyata's column 3, lines 18-21, paragraph 84).

As in claim 32, Miyata further describes wherein the at least one location description and the corresponding property describing the type of the operation are designated by a requester (Miyata's paragraphs 96-99 describes API and methods for user to specifying the areas to be duplicated, Miyata paragraphs 34-37,39-40,44 further discloses the mechanism for application program to instruct and communicate with other modules in host Fig 1: #13 and storage unit Fig 1: #14).

As in claims 33-35, Miyata further describes obtaining a designation of the operation to be performed (claim 33, paragraph 86-87, Fig 11, the processor #13 obtained the copy "ditto" operation designated by client computer #11); wherein the requester manages data in the storage area (claim 34, Miyata's paragraph 96); wherein the requester performs a management function of a set of management functions for the storage area (claim 35, Miyata's paragraph 95)

As in claims 36, Miyata further describes wherein the requester identifies a respective physical location described in the at least one location description (Miyata's

paragraphs 96-98 disclose that the client/user identifies respective storage regions for the copy/duplicate operation).

As in claim 37, Miyata describes wherein each location in the second set of locations is specified by a beginning location and a number of contiguous locations starting at the beginning location (Miyata's column 6, lines 1-3, lines 30-39).

As in claim 38, Miyata describes wherein the at least one location description is designated by a set of indicators, wherein the set of indicators comprises an indicator for each respective location of the plurality of locations Miyata's Fig 4, Fig 2, paragraphs 50-52 describes each attribute bit associated with its corresponding storage location such as a data block), and each indicator of the set of indicators indicates whether the respective location for the indicator is described in the at least location description (Miyata's Fig 4, Fig 2, paragraphs 50-52 describes each attribute bit describing the corresponding operation such as duplication for the corresponding data block).

As in claim 39, Miyata further describes obtaining a second set of locations location; and performing a second operation on the second set of location after the operation is performed on the given location (Miyata's paragraph 75 further discloses several operations are recursively operating on several set of locations (i.e several files)).

As in claim 40, Miyata further describes the at least one location description and the corresponding property describing the type of the operation are designated by the requester; and the operation and the second operation are designated by the requester (Miyata's paragraphs 67-68,98 further discloses information corresponding to commands for different type of operations, and attributes can be obtained from user)

As in claim 41, Miyata further discloses each type of operation in the sieve is performed on a given location if the sieve is specified (Miyata's paragraphs 70, 102 further disclose a mechanism in which type of operations is specified, for example caching or remote copy; and the specific operation is performed accordingly on the give location that being specified for the operation, see Miyata's paragraphs 85-86).

As in claim 42,46,50 the claims are rejected based on the same rationale as of claim 27.

As in claims 44,48,52 the claims are rejected based on the same rationale as of claim 32.

As in claims 45,49,53 the claims are rejected based on the same rationale as of claim 33.

As in claim 54, it rejected based on the same rationale as of claim 50. Miyata's Fig 1 further discloses a system includes processor (Fig 1: #11a) and computer readable media (Fig 1: #143).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to

a person having ordinary skill in the art to which said subject matter pertains.

Patentability shall not be negated by the manner in which the invention was made.

Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Miyata et al (US 2003/0225972) as applied in claim 27, and further in view of Krishnamurthy (US 6823436).

As in claim 31, Miyata does not expressly describe the claim's detail of subsets. However, Krishnamurthy's column 4 lines 43-49 describes as follows: obtaining a set of entities, wherein the first set of locations comprises a plurality of subsets of locations (data blocks in an extent), It would have been obvious to one of ordinary skill in the art at the time of invention to include copy method as suggested by Krishnamurthy in Miyata's system such that data is being copied from the source storage area to the destination area in a small chunk of contiguous blocks of data, and thereby data can be provided to the host from either source drive or target drive much sooner (Krishnamurthy's column 4 lines 13-30).

Regarding the claim's aspect of permission, Miyata clearly discloses the file attributes contains information for permitting operations to be performed on the file (see Miyata's Fig 4, paragraph 52).

Response to Arguments

Applicant's arguments in response to the last office action has been fully considered but they are not persuasive. Examiner respectfully traverses Applicant's arguments for the following reasons:

Applicant's amendment of the drawing overcomes the drawing objection in the previous office action.

Examiner withdraws the claim objections.

Examiner maintains the rejection of claims 46-49 under 35 U.S.C. 101.

Applicant's arguments regarding the rejections of claims 27,29-30,32-42,44-46,48-50, and 52-54 under 35 U.S.C 102(e) are not persuasive.

With respect to claim 27,

A) Applicant's remarks that Miyata does not teach the claim's limitation "in response to a request ..". Examiner disagrees.

Miyata's Fig 11, paragraphs 87-88 discloses a mechanism in which the controller Fig 1: #131 performs an operation, for example a copy/duplicate operation by registering a duplicating function. Of course, this operation must be initiated by a corresponding request, otherwise the computer cannot start registering the operation/function. In other words, the duplicating function/operation is formed/registered in response to a request for the duplicate operation which is processed by computer such as client computer 11a, host computer 13.

B) Applicant further argues that Miyata teaching performing the operation on files somehow "quite different than operating on a physical location" and "the former operates in a logical construct that can be located in any of variety of possible physical location,

while the later operations on a physical location, regardless of whether that physical location stores data for a particular file or directory”. Examiner disagrees.

First, “a physical location” is not recited in the claim, and not explicitly defined in the specification regarding the size of data of a physical location. Second, files are chunks of data being stored in storage devices. Thus location of data in storage devices is directly corresponding to the files' data. Thus any operation operates on files' data locations (i.e read, write data etc..) means it operates on locations of data in storage device belong to the files. Thus regardless which specific storage device stored the files' data, the locations in the storage device are directly corresponding to files' data locations.

The claim merely recites “a set of locations of plurality of locations in a storage area”. Thus “the location” can be reasonable interpreted as pointing to one or more bits of storage in storage devices. And “the location in a storage area” as recited can be viewed as pointing to/representing one or more e bits of data, one or more bytes of data, one or more blocks of data, one or more regions of data, or one or more files of data etc.. that are stored in the storage area/storage devices. It's noted that the size of files, for example an e-mail file, can ranges from a byte to several bytes.

Thus Miyata's teaching of the operation on files directly includes the corresponding files' data locations stored in storage devices. And therefore Miyata's teaching meets the claim's recited limitation.

C) Regarding Applicant's arguments “the sieve comprises the at least one location description and a correspond property..” and “the file attribute array.. of Miyata does not provide any information that corresponding to either property or the location description of claim 27..”,

Applicant appears to argue that Miyata does not teach a mechanism that comprise the property or the location description of claim 27. Examiner respectfully disagrees; both the property and the location description are discussed in the rationale for the rejection of claim 27. Miyata's Figs 2, 4-5 teaches all locations (i.e all LBA blocks) having attribute bits #203 with value 1 in the files being identified for the operation (see Miyata's paragraphs 85-86 discloses an embodiment in which an extend attribute readily added to representing whether the duplication/operation be executed in the file; In this embodiment, the attribute #203 has a meaning of the necessity of forming a ditto..when the value is 1. In other words, Miyata clearly teaches a mechanism and structures that identifies all of the storage locations within a storage area upon which an operation is performed.

D) Applicant further argues that "a single block attribute bit cannot identify all locations that have the same attribute", "the block attribute identify attribute, not operation..", "...the file attribute region 402 has nothing to do with the block attribute bits.." and conclude that Miyata does not teach the claim's limitation "wherein at least on location descriptor identify all storage locations within storage area upon which the operation can be performed". Examiner respectfully disagrees. Examiner submits that the claim does not require a specific data structure, let alone "single bit identifying all location.." as argued.

The claim merely recites "at least one location descriptor..", and not having any other limitation regarding how this location descriptor constructed. Thus "the location descriptor" at best can be interpreted as any data structure constructed having information

to identifying locations of the data and information to indicate an operation to be performed for the data locations.

Therefore Miyata's teaching of metadata structure (Fig 3, Fig 4) comprises block attribute bits #202, #203, stored in attribute region 403, wherein each attribute bit #202, #203 indicates a specific property/function/operation.. to be performed for data locations associating with specific one or more LBA blocks as shown in Figs 2, 4 meets the claim's "the one or more location descriptors" as recited. And therefore Applicant's arguments are not persuasive.

It's further noted, as pointed out in item A above, a LBA can be viewed as either a single location or multiple locations stored in storage area as recited in the claim.

D) Applicant's arguments regarding claim 31 are similar to the arguments offered for claim 27 and the same response applied.

Conclusion

When responding to the office action, Applicant is advised to provide the examiner with the line numbers and page numbers in the application and/or references cited to assist examiner to locate the appropriate paragraphs.

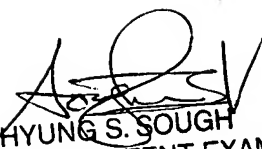
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Duc T. Doan whose telephone number is 571-272-4171.

The examiner can normally be reached on M-F 8:00 AM 05:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hyung S. Sough can be reached on 571-272-6799. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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HYUNG S. SOUGH
SUPERVISORY PATENT EXAMINER
02/04/08